CLAIMS

13. A mycotoxin adsorbent comprising

an organically modified (organophilic) layered silicate comprising a quaternary onium compound, wherein said quaternary onium compound includes at least a C_{10} to C_{22} alkyl group and an aromatic substituent.

14. A mycotoxin adsorbent comprising

a mixture of a layered silicate, which has not been organically modified, and a layered silicate, which has been organically modified to at least about 75 percent of its total cation exchange capacity (CEC).

15. The mycotoxin adsorbent of Claim 14 wherein the organically modified layered silicate comprises a quaternary onium compound including at least a C_{10} to C_{22} alkyl group and at least one aromatic substituent.

16. The mycotoxin adsorbent of Claim 13 wherein the C_{10} to C_{22} alkyl group comprises a C_{14} to C_{18} alkyl group.

17. The mycotoxin adsorbent of Claim 15 wherein the C_{10} to C_{22} alkyl group comprises a C_{14} to C_{18} alkyl group.

18. The mycotoxin adsorbent of Claim 13 wherein the quaternary onium compound is selected from a group consisting of stearylbenzyldimethylammonium chloride, coconut alkyldimethylbenzylammonium chloride, dimethyllaurylbenzylammonium chloride, distearylmethylbenzylammonium chloride or quaternized tallow imidazolinium methosulfate is used as quaternary onium compound.

19. The mycotoxin adsorbent of Claim 15 wherein the quaternary onium compound is

selected from a group consisting of stearylbenzyldimethylammonium chloride, coconut alkyldimethylbenzylammonium chloride, dimethyllaurylbenzylammonium chloride, distearylmethylbenzylammonium chloride or quaternized tallow imidazolinium methosulfate is used as quaternary onium compound.

20. The mycotoxin adsorbent of Claim 13 wherein the organically modified layered silicate comprises a smectite clay mineral.

21. The mycotoxin adsorbent of Claim 14 wherein the organically modified layered silicate comprises a smectite clay mineral.

22. The mycotoxin adsorbent of Claim 13 wherein the organically modified layered silicate comprises a montmorillonite-containing clay.

23. The mycotoxin adsorbent of Claim 14 wherein the organically modified layered silicate comprises a montmorillonite-containing clay.

24. The mycotoxin adsorbent of Claim 13 wherein the organically modified layered silicate comprises a bentonite clay.

25. The mycotoxin adsorbent of Claim 14 wherein the organically modified layered silicate comprises a bentonite clay.

26. The mycotoxin adsorbent of Claim 14 wherein no more than 75 percent of exchangeable cations of the layered silicate which has been organically modified are exchanged with a quaternary onium compound.

27. The mycotoxin adsorbent of Claim 14 wherein about 2 to about 30 percent of the exchangeable cations of the layered silicate which has been organically modified are

exchanged with quaternary onium compounds.

28. The mycotoxin adsorbent of Claim 14 wherein about 2 to about 15 percent of the exchangeable cations of the layered silicate which has been organically modified are exchanged with quaternary onium compounds.

29. The mycotoxin adsorbent of Claim 14 wherein about 2 to about 10 percent of the exchangeable cations of the layered silicate which has been organically modified are exchanged with quaternary onium compounds.

30. The mycotoxin adsorbent of Claim 14 wherein the organically modified layered silicate comprises from about 0.1 to about 50 weight percent of the adsorbent.

31. The mycotoxin adsorbent of Claim 14 wherein the organically modified layered silicate comprises from about 0.5 to about 20 weight percent of the adsorbent.

32. The mycotoxin adsorbent of Claim 14 wherein the organically modified layered silicate comprises from about 0.5 to about 10 weight percent of the adsorbent.

33. A mycotoxin adsorbent comprising

an organically modified (organophilic) layered silicate comprising a quaternary onium compound, wherein said quaternary onium compound includes at least a C_{14} to C_{18} alkyl group and an aromatic substituent.

34. A mycotoxin adsorbent comprising

a mixture of a layered silicate which has not been organically modified and a layered silicate which has been organically modified to at least about 75 percent of its total cation exchange capacity (CED) wherein the organically modified layered silicate includes at least a C_{14} to C_{18} alkyl group and at least one aromatic substituent.

35. A feed additive comprising a mycotoxin adsorbent which comprises an organically modified (organophilic) layered silicate comprising a quaternary onium compound, wherein said quaternary onium compound includes at least a C_{10} to C_{22} alkyl group and an aromatic substituent.

36. A feed additive comprising a mycotoxin adsorbent, wherein the mycotoxin adsorbent comprises a mixture of a layered silicate which has not been organically modified and a layered silicate which has been organically modified to at least about 75 percent of its total cation exchange capacity (CEC).

37. A premix for production of a feed additive comprising the mycotoxin adsorbent of Claim 13 containing more than 50 percent organically modified layered silicate.

38. A process for the adsorption of mycotoxins in feeds comprising treating the feeds with the mycotoxin adsorbent of Claim 13.

39. A process for the adsorption of mycotoxins in feeds comprising treating feeds with the mycotoxin adsorbent of Claim 14.